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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,601	08/10/2001	Jani Ekman	930.336USW1	8153

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EXAMINER

CHOW, CHARLES CHIANG

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 06/12/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,601

Applicant(s)

EKMAN ET AL.

Examiner

Charles Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/26/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Action

1. It is acknowledged that applicant's pre-amendment, filed 8/10/2001, are entered.

Priority

2. It is acknowledged that applicants are claiming the priority from foreign document United Kingdom 9,903,125.4, filed 02/11/1999, and the continuation benefit from PCT international application PCT/EP00/01,078, filed 2/10/2000.

Specifications

3. It is suggested that, for each section, in the specifications, a section-header needs to be added, such as "Field of Invention", "Background of Invention", "Summary of Invention", Brief Description of the Drawings", Detailed Description of the Preferred Embodiments".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers et al. (US 6,539,237 B1) in view of Thomas (US 6,421,339 B1), and further in view of Wallentin (US 6,233,222 B1).

Regarding **claim 1**, Sayers et al. (also as Sayers in below) discloses a cellular communication network (col. 7, lines 17-26, a wireless GSM system has private and public network in Fig. 1-4 and Fig. 15). Sayers discloses a integrated wireless system comprises plurality of gateways

(gateway 42-1 to 42-G, in Fig. 2, Fig. 4; and in col. 9, lines 42-45) for controlling cells in the cellular communications network, such as networks PSTN 26, ISDN 28, PBX 43, LAN (in Fig. 2, Fig. 4). Sayers discloses the wireless packet IP call connections for public GSM network and private networks (abstract). Besides, Sayers discloses the intra-private network handover, inter-private network handover, the handover between private and public network in col. 23, lines 6-15).

Sayers discloses the gateways being arranged to receive RF information from at least one mobile station in the network. Because Sayers discloses the mobile station 4 in private network can communicate with public network 8, via gateways 42, through base transceiver station P-BTS 27-1/ 27-p, hub 23, router 33, (as shown in Fig. 2, and col. 10, lines 19-24).

Sayers discloses a gateways 42 which provides the line interface and transcoding functions to PSTN, ISDN, PBX (Fig. 4, col. 11, lines 37-43), for mobile station.

Sayers discloses each gateway includes means for generating a handover required indication for a call (as shown in col. 27, lines 62-67, the means for forwarding a handover message from the packet network interface as a nonstandard packet network message indicating a handover request).

Sayers discloses the packet generating means for generating a packet addressed to said gatekeeper including control information comprising candidate identity and address of alternative cell for possible call transfer (as shown in col. 27, lines 50-61, the call control message from serving P-BTS to target P-BTS, having handover information indicating P-

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BTS identifier and called party number; the BTS ID for handover in col. 23, lines 43-50; and the P-BTS can perform handover candidate calculation in col. 23, lines 18-42). Sayers discloses the P-BTS performs the gatekeeper function in col. 16-18).

Sayers discloses the gatekeeper including means for generating a packet for sending handover request for handing over (as shown above, in col. 27, lines 50-67, the P-BTS-gatekeeper passing a handover request to packet data interface, and generating handover location request).

Sayers does not clearly indicate the gatekeeper connected to the gateway by a switch packet path.

Thomas teaches the above claimed features for connecting gatekeeper to gateway via a switched packet path. Because Thomas teaches gatekeeper 44 (Fig. 1), which is connected, via packet data network 30, R/GW 34/28 (Fig. 1, col. 3, lines 6-10), to gateways 24, 32, 26 for forwarding a call (title, abstract). Thomas teaches the home gatekeeper authorizes roaming user with address and transient identity for call connection to other visited network (abstract; col. 6, line 60 to col. 7, line 45). Thomas teaches at least one gatekeeper 14 or 44 (Fig. 1), for call forwarding (title, abstract, figure in cover page). Thomas provides a technique to allow home gatekeeper to authorize the transient identity and address, such that the remote call can be efficiently connected, without traveling to the remote site (col. 2, lines 22-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers, and to include Thomas's home gatekeeper to authorize the

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transient identity and address, such that the remote call can be efficiently connected, without traveling to the remote site.

Sayers does not clearly indicate the transmitting of candidate list to gatekeeper for handover. Wallentin teaches the radio network controller RNC 222₂, 222₁ as the gatekeepers, and the candidate connection identity list for controlling the network congestion, by adjusting the call connection (title, abstract, Fig. 2, Fig. 5, Fig. 9-10; col. 1, lines 14-16, summary of invention). Wallentin teaches the RNC 222₁ prepares and transmits congestion message to RNC 222₂, and the congestion message including the connection identity list (col. 10, line 63 to col. 11, line 6, Fig. 2, 5, 9-10). Wallentin provides a call congestion control such that the resources can be efficiently used by a node in another region, for the call connection adjustment, to avoid the congestion interference (col. 3, lines 44-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers above, and to include Wallentin's efficiently usage of resources at another node for the call connection, such that system can avoid the call congestion.

Regarding **claim 2**, referring to Sayers' gatekeeper 41 which is the common control for gateways 42-1/42-G (as shown in Fig. 2, 4). Besides, Thomas teaches the gatekeepers 14 as the common control for gateways 22, 24, 32, 26 (Fig. 1).

Regarding the packet generated by said gatekeeper is addressed to one of said gateways in said zone, Sayers has shown above the gatekeeper (P-BTS 27) generates packet to public network 8, via gateway 42-1/42-G (as shown in col. 10, lines 19-24). Sayers also showed the

packet interface layer for formatting an external control message which has alias identifier, intended for transmission across the packet network (in col. 25, col. 56-67).

Regarding **claim 3**, referring Sayers above, for an interface for connection to an external, public, network which includes an external controller (the external formed by gateway 42-1/42-G, P-BTS 27, hub 23, and router 33, as shown in Fig. 2), for the packet generated by gatekeeper is addressed to said controller (as shown above, in claim 2, col. 25, lines 56-67).

In Fig. 1, Sayer also considers the external controller BSC 16, for private networks .

Regarding **claim 4**, referring to Thomas' Fig. 1, for the data defining network specific resources is held at each gateway, such as gateway 26 is defined for ISDN network, gateway 24 is defined for ATM network, and gateway 22 is defined for PSTN network.

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers in view of Thomas, as applied to claim 1 above, and further in view of Hannula et al. (US 6,366,893 B2).

In the above it does not clearly indicate the data defining network specific resources defines a GSM specific end system information.

Regarding **claim 5**, Hannula et al. (also as Hannula in below) teaches the service gateway 10 has conversion 152 (Fig. 4) for interfacing to various payment protocols (abstract, figure in cover page, Fig. 1, Fig. 5-6), for the payment transactions. Hannula's system is for Pan European digital GSM system, as shown in col. 6, line 65 to col. 7, line 3). Hannula teaches the service gateway 10 is arranged to perform the protocol conversion between the first

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payment interface and at least one further payment protocol interface (col. 8, line 66 to col. 9, line 2; col. 9, lines 61-64). Hannula's gateway protocol conversion can immediately provide the protocol interface conversion to many different protocols, such that the system can interface to different protocols with low cost (col. 1, line 42 to col. 2, line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers above, and to include Hannula's gateway protocol conversion to many different protocols, such that the system can interface to different protocols with low cost.

Regarding **claim 6**, referring to Thomas above for the plurality of gatekeepers each controlling a set of gateway (Fig. 1), for the defining individual network zone for PSTN, ISDN, ATM. Referring to Sayers above for the handover, and the generating of packet at gatekeeper (serving P-BTS) for addressing to at least one other gatekeeper (target P-BTS).

Regarding **claim 7**, referring to Sayers above for the anchor gatekeeper through which all handoff request are routed (in col. 11, lines 4-18, the gatekeeper provides functions for accessing to network, translation of called numbers, routing calls).

6. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers in view of Thomas, as applied to claim 1 above, and further in view of Hannula.

Regarding **claim 8**, referring to claims 1, 5, above for the method of effecting handoff of call for mobile station in cellular network. Referring to claims 1, 5, above, for the handoff required indication from mobile station, for handover from a source gateway to a target gateway (the call congestion call transferring from source radio network controller RNC 222

to the target RNC, from Wallentin). Referring to Sayers for the P-BTS formulating at source gateway of the packet control message which indicates the target P-BTS identifier (Sayer's claim 11), and the alias identifier in Sayers claim 1. Referring to Wallentin for the target candidate list (Fig. 10) for the call connection adjustment due to call congestion. Referring to Sayers above for the candidate calculation for determining of the target gateway for forwarding handoff request. Referring to Sayers' claim 1 for formulating, generating, external packet control message intended for transmission over the packet data network (Fig. 4, col. 11, lines 37-51; and Fig. 15, col.24, lines 25-53). Besides, Sayers discloses the intra-private network handover, inter-private network handover, the handover between private and public network in col. 23, lines 6-15).

Regarding **claim 9**, referring to claims 1, 2, above for the method for the same zone (inter-private network handover), and the packet generated by source gatekeeper P-BTS addressing to target gatekeeper P-BTS.

Regarding **claim 10**, referring to claims 1, 3, above for the method for the handover to be effected to an external network, between private and public network, from Sayers above, and also Sayers' col. 25, lines 44-67. Referring to Sayers' base station controller BSC 16 in Fig. 1 and col.25, lines 47-48, for the external controller for interfacing to external network.

Regarding **claim 11**, referring to claims 1, 6, above for the method for the packet generated by the source gatekeeper P-BTS is addressed to target gatekeeper having the identity of the target gatekeeper P-BTS. Referring to Wallentin for the candidate list for target RNC for adjusting of the call connection, for handover calls to second RNC.

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Regarding **claim 12**, referring to claims 1, 7, above for the method for source gatekeeper P-BTS 27 is an anchor gatekeeper, and all the handover request are routed through that anchor gatekeeper P-BTS.

Regarding **claim 13**, referring to claims 1, 11, above for the method for the candidate list having the local area codes (IP address above in Sayers), and the cell identifiers (alias identifier, P-BTS identity, from Sayers, and the target RNC identity list, Fig. 10 of Wallentin above), for the possible alternative target gateways.

Regarding **claim 14**, referring to claims 1, 3, above for the handover, the external network handover above in between private and public network, and the gatekeeper, P-BTS, is arranged to receive a control message packet from an interface unit (BSC 16 in Fig. 1; gateway 42-1/42-G in Fig. 4, in Sayers) from external network. Besides, Thomas also teaches the call forwarding in between network domain 12 and network domain 10 for the roaming user to visited gatekeeper (Fig. 1, abstract).

Conclusion

7. In the above disclosure, Sayers discloses the a wireless GSM system has private and public network, and a integrated wireless system comprises plurality of gateways 42-1 to 42-G for controlling cells in the cellular communications network, such as networks PSTN 26, ISDN 28, PBX 43, LAN. Sayers discloses the wireless packet IP call connections for public GSM network and private networks. Sayers discloses the gateways being arranged to receive RF information from at least one mobile station in the network. Because Sayers discloses the mobile station 4 in private network can communicate with public network 8, via gateways 42, through base transceiver station P-BTS 27-1/ 27-p, hub 23, router 33. Sayers discloses a

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gateways 42 which provides the line interface and transcoding functions to PSTN, ISDN, PBX for mobile station. Sayers discloses each gateway includes means for generating a handover required indication for a call, and the means for forwarding a handover message from the packet network interface as a nonstandard packet network message indicating a handover request. Sayers discloses the call control message from serving P-BTS to target P-BTS, having handover information indicating P-BTS identifier and called party number; the BTS ID for handover, and the P-BTS can perform handover candidate calculation. Sayers discloses the P-BTS performs the gatekeeper function.

Thomas teaches the teaches gatekeeper 44, which is connected, via packet data network 30, R/GW 34/28, to gateways 24, 32, 26 for forwarding a call. Thomas teaches the home gatekeeper authorizes roaming user with address and transient identity for call connection to other visited network. Thomas teaches at least one gatekeeper 14 or 44, for call forwarding (title, abstract, figure in cover page). Thomas provides a technique to allow home gatekeeper to authorize the transient identity and address, such that the remote call can be efficiently connected, without traveling to the remote site.

Wallentin teaches the teaches the radio network controller RNC 222₂, 222₁ as the gatekeepers, and the candidate connection identity list for controlling the network congestion, by adjusting the call connection. Wallentin teaches the RNC 222₁ prepares and transmits congestion message to RNC 222₂, and the congestion message including the connection identity list. Wallentin provides a call congestion control such that the resources can be efficiently used by a node in another region, for the call connection adjustment, to avoid the congestion interference.

Hannula teaches the service gateway 10 has conversion 152 for interfacing to various payment protocols for the payment transactions. Hannula's system is for Pan European digital GSM system. Hannula teaches the service gateway 10 is arranged to perform the protocol conversion between the first payment interface and at least one further payment protocol interface. Hannula's gateway protocol conversion can immediately provide the protocol interface conversion to many different protocols, such that the system can interface to different protocols with low cost.

8. The cited pertinent prior arts are listed below:

- A. US 2002/0065,079 A1, May 2002, Ekman et al. (applicants) discloses the same claimed subject matters as in this application, as shown in title, abstract, claims.
- B. US 6,161,008, December 2000, Lee et al. teaches the personal mobility terminal for call services in heterogeneous networks, for routing the telephone call to user (abstract, title, figure in cover page). The system includes the cellular network, Lan/Wan network, and satellite network.
- C. US 2002/0147,008 A1, October 2002, Kallio teaches the seamless wireless mobile call connection between GSM and LAN as shown in abstract, figure in cover page, and in the summary of invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

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Edward Urban, can be reached at (703)-305-4385.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Charles Chow

June 06, 2003.